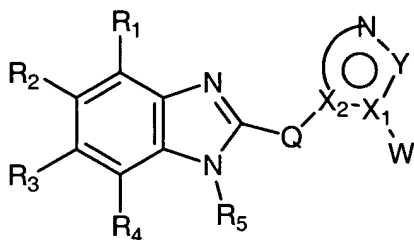


## Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Claim 1 (currently amended): A compound of the formula:



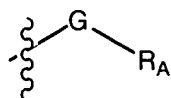
or a pharmaceutically acceptable salt thereof, wherein:

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, haloalkyl, and haloalkoxy,
- ii) alkyl, alkoxy, cycloalkyl, alkenyl, alkynyl, (cycloalkyl)alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), hydroxyalkyl, aminoalkyl, (R<sub>10</sub>)NHalkyl-, (R<sub>10</sub>)(R<sub>11</sub>)Nalkyl-, alkanoyl, alkoxycarbonyl, (heterocycloalkyl)alkyl, alkylsulfonyl, alkylthio, mono- or dialkylaminocarbonyl, heterocycloalkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>,

wherein R<sub>10</sub> and R<sub>11</sub> are independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, aryl, arylalkyl, alkanoyl, and mono and dialkylaminoalkyl; and

- iii) a group of the formula:

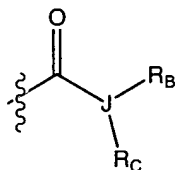


where G is a bond, alkyl, -O-, -C(=O)-, or -CH<sub>2</sub>C(=O)-, and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings,

each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ ,

iv) a group of the formula



where J is N, CH, or C-alkyl, and

$R_B$  and  $R_C$  are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, heterocycloalkyl, aryl, arylalkyl, alkanoyl, heteroaryl, and mono and dialkylaminoalkyl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl;

$R_B$  and  $R_C$  and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain:

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, or N- $R_D$  wherein  $R_D$  is hydrogen,  $Ar_1$ , alkyl, cycloalkyl, heterocycloalkyl, or  $Ar_1$ alkyl; wherein  $Ar_1$  is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl, and/or
- c) one or more substituents  $R_{20}$ ;

v)  $-OC(=O)R_E$ ,  $-C(=O)OR_E$ ,  $-C(=O)NH_2$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-S(O)_nR_E$ ,  $-S(O)_nNH_2$ ,  $-S(O)_nNHR_E$ ,  $-S(O)_nNR_ER_F$ ,  $-NHC(=O)R_E$ ,  $-C(=NR_E)R_F$ ,  $-HC=N-OH$ ,  $-HC=N(alkoxy)$ ,  $-HC=N(alkyl)$ ,  $-NR_EC(=O)R_F$ ,  $-NHS(O)_mR_E$ , and  $-NR_ES(O)_mR_F$ , where m is 0, 1 or 2, and

$R_E$  and  $R_F$  are independently selected at each occurrence from alkyl, cycloalkyl, heterocycloalkyl, alkoxy, mono-

or dialkylamino, aryl, or heteroaryl each of which is optionally substituted by 1, 2, or 3 of R<sub>30</sub>;

R<sub>20</sub> is independently selected at each occurrence from the group consisting of: halogen; hydroxy; nitro; cyano; amino; alkyl; alkoxy optionally substituted with amino or mono- or dialkylamino; cycloalkyl; cycloalkylalkyl; cycloalkylalkoxy; alkenyl; alkynyl; haloalkyl; oxo; haloalkoxy; mono- and dialkylamino; aminoalkyl; and mono- and dialkylaminoalkyl;

R<sub>30</sub> is independently selected at each occurrence from halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, oxo, mono- and dialkylamino, aminoalkyl, and mono- and dialkylaminoalkyl;

R<sub>5</sub> represents hydrogen or haloalkyl; or

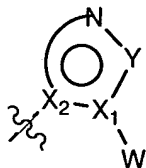
R<sub>5</sub> represents alkyl, cycloalkyl, or (cycloalkyl)alkyl, each of which may contain one or more double or triple bonds, and each of which is optionally substituted with 1, 2, or 3 of R<sub>30</sub>, or

R<sub>5</sub> represents aryl, arylalkyl, heteroaryl, or heteroarylalkyl each of which is optionally substituted with 1, 2, or 3 substituents selected from the group consisting of haloalkyl, amino, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), carboxamido, (R<sub>10</sub>)NHcarbonyl, (R<sub>10</sub>)(R<sub>11</sub>)Ncarbonyl, halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aminoalkyl, and mono- and dialkylaminoalkyl;

Q represents -C(R<sub>6</sub>)(R<sub>7</sub>) or oxygen,

with the proviso that Q is not oxygen when X<sub>2</sub> is nitrogen;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or alkyl;  
the group:



represents a 5 to 7 membered heteroaryl or heterocycloalkyl ring containing up to 4 heteroatoms independently selected from nitrogen, sulfur, and oxygen, said 5 to 7 membered heteroaryl or heterocycloalkyl ring is substituted at each carbon atom by R, and substituted at each nitrogen atom available for substitution by R', wherein

R is independently chosen at each occurrence from hydrogen, halogen, amino, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, haloalkyl, haloalkoxy, carboxamido, and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one or more substituents independently selected from halogen, oxo, hydroxy, alkyl, and alkoxy, where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms;

R' is independently chosen at each occurrence from alkyl, hydrogen, cycloalkyl, cycloalkyl(alkyl), and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which 3- to 7-membered carbocyclic or heterocyclic groups are optionally substituted with one or more substituents independently selected from halogen, oxo, hydroxy, alkyl, and alkoxy, where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms;

X<sub>1</sub> and X<sub>2</sub> independently represent nitrogen, sulfur, carbon or CH;

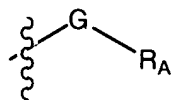
Y is sulfur, nitrogen, oxygen, carbon, -CH-, -CH<sub>2</sub>-, or absent;  
and

W represents aryl or heteroaryl, wherein the aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H, -C(=O)OR<sub>E</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -C(O)R<sub>E</sub>, and -S(O)<sub>m</sub>R<sub>E</sub>, -OR<sub>E</sub>, where R<sub>30</sub> and R<sub>E</sub> are as defined above and m is 0, 1, or 2.

Claim 2 (previously presented): A compound or salt according to Claim 1, wherein

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, alkynyl, ((C<sub>3</sub>-C<sub>8</sub>)cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), hydroxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkanoyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>1</sub>-C<sub>6</sub>)alkylsulfonyl, (C<sub>1</sub>-C<sub>6</sub>)alkylthio, mono- or di(C<sub>1</sub>-C<sub>6</sub>)alkylaminocarbonyl, heterocycloalkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>, wherein R<sub>10</sub> and R<sub>11</sub> are independently selected from the group consisting of (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkylalkyl, aryl, aryl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkanoyl, and mono and di(C<sub>1</sub>-C<sub>6</sub>)alkylaminoalkyl;
- iii) a group of the formula:

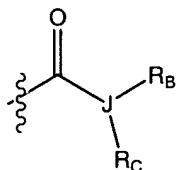


where G is (C<sub>1</sub>-C<sub>6</sub>)alkyl, -O-, -C(=O)-, or -CH<sub>2</sub>C(=O)-, and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring consisting of from 3 to 8 ring atoms, and each

ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O; said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>, and

iv) a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl, heterocycloalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkanoyl, heteroaryl, and mono and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, C<sub>1</sub>-C<sub>6</sub>alkoxy, and C<sub>1</sub>-C<sub>6</sub>alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds;
  - b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen, Ar<sub>1</sub>, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, heterocycloalkyl, or Ar<sub>1</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl; wherein Ar<sub>1</sub> is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, C<sub>1</sub>-C<sub>6</sub>alkoxy, and C<sub>1</sub>-C<sub>6</sub>alkyl; and/or
  - c) one or more substituents R<sub>20</sub>;
- v) -OC(=O)R<sub>E</sub>, -C(=O)OR<sub>E</sub>, -C(=O)NH<sub>2</sub>, -C(=O)NHR<sub>E</sub>, -C(=O)NR<sub>E</sub>R<sub>F</sub>, -S(O)<sub>n</sub>R<sub>E</sub>, -S(O)<sub>n</sub>NH<sub>2</sub>, -S(O)<sub>n</sub>NHR<sub>E</sub>, -S(O)<sub>n</sub>NR<sub>E</sub>R<sub>F</sub>, -NHC(=O)R<sub>E</sub>, -C(=NR<sub>E</sub>)R<sub>F</sub>, -HC=N-OH, -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy), -HC=N(C<sub>1</sub>-C<sub>6</sub>alkyl), -

$\text{NR}_E\text{C}(=\text{O})\text{R}_F$ ,  $-\text{NHS}(\text{O})_m\text{R}_E$ , and  $-\text{NR}_E\text{S}(\text{O})_m\text{R}_F$ , where  $m$  is 0, 1 or 2, and

$\text{R}_E$  and  $\text{R}_F$  are independently selected at each occurrence from  $(\text{C}_1\text{-C}_6)\text{alkyl}$ ,  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$ , heterocycloalkyl,  $(\text{C}_1\text{-C}_6)\text{alkoxy}$ , mono- and di $(\text{C}_1\text{-C}_6)\text{alkylamino}$ , aryl, and heteroaryl each of which is optionally substituted by 1, 2, or 3 of  $\text{R}_{30}$ ;

$\text{R}_{20}$  is independently selected at each occurrence from the group consisting of halogen; hydroxy; nitro; cyano; amino;  $(\text{C}_1\text{-C}_6)\text{alkyl}$ ;  $(\text{C}_1\text{-C}_6)\text{alkoxy}$  optionally substituted with amino or mono- or di $(\text{C}_1\text{-C}_6)\text{alkylamino}$ ;  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$ ;  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}(\text{C}_1\text{-C}_4)\text{alkyl}$ ;  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}(\text{C}_1\text{-C}_4)\text{alkoxy}$ ;  $(\text{C}_2\text{-C}_6)\text{alkenyl}$ ;  $(\text{C}_2\text{-C}_6)\text{alkynyl}$ ; halo $(\text{C}_1\text{-C}_6)\text{alkyl}$ ; halo $(\text{C}_1\text{-C}_6)\text{alkoxy}$ ; oxo; mono- and di $(\text{C}_1\text{-C}_6)\text{alkylamino}$ ; amino $(\text{C}_1\text{-C}_6)\text{alkyl}$ ; and mono- and di $(\text{C}_1\text{-C}_6)\text{alkylamino}(\text{C}_1\text{-C}_6)\text{alkyl}$ ;

$\text{R}_{30}$  is independently selected at each occurrence from halogen, hydroxy, nitro, cyano, amino,  $(\text{C}_1\text{-C}_6)\text{alkyl}$ ,  $(\text{C}_1\text{-C}_6)\text{alkoxy}$  optionally substituted with amino or mono- or di $(\text{C}_1\text{-C}_6)\text{alkylamino}$ ,  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$ ,  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}(\text{C}_1\text{-C}_4)\text{alkyl}$ ,  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}(\text{C}_1\text{-C}_4)\text{alkoxy}$ , heterocycloalkyl,  $(\text{C}_2\text{-C}_6)\text{alkenyl}$ ,  $(\text{C}_2\text{-C}_6)\text{alkynyl}$ , halo $(\text{C}_1\text{-C}_6)\text{alkyl}$ , halo $(\text{C}_1\text{-C}_6)\text{alkoxy}$ , oxo, mono- and di $(\text{C}_1\text{-C}_6)\text{alkylamino}$ , amino $(\text{C}_1\text{-C}_6)\text{alkyl}$ , and mono- and di $(\text{C}_1\text{-C}_6)\text{alkylamino}(\text{C}_1\text{-C}_6)\text{alkyl}$ ;

$\text{R}_5$  represents hydrogen or halo $(\text{C}_1\text{-C}_6)\text{alkyl}$ ; or

$\text{R}_5$  represents  $(\text{C}_1\text{-C}_6)\text{alkyl}$ ,  $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$ , or

$(\text{C}_3\text{-C}_8\text{cycloalkyl})(\text{C}_1\text{-C}_4)\text{alkyl}$ , each of which may contain one or more double or triple bonds, and each of which is optionally substituted with 1, 2, or 3 of  $\text{R}_{30}$  or

$\text{R}_5$  represents aryl, aryl $(\text{C}_1\text{-C}_4)\text{alkyl}$ , heteroaryl, or heteroaryl $(\text{C}_1\text{-C}_4)\text{alkyl}$  each of which is optionally

substituted with 1, 2, or 3 substituents selected from the group consisting of:

halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, amino, NH(R<sub>10</sub>), N(R<sub>10</sub>)(R<sub>11</sub>), carboxamido, NH(R<sub>10</sub>)carbonyl, N(R<sub>10</sub>)(R<sub>11</sub>)carbonyl, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy optionally substituted with amino or mono- or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>4</sub>)alkoxy, heterocyclo(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

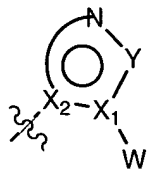
Q represents -C(R<sub>6</sub>)(R<sub>7</sub>) or oxygen,

with the proviso that Q is not oxygen when X<sub>2</sub> is nitrogen;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or

C<sub>1</sub>-C<sub>6</sub>alkyl;

the group:



represents a 5 to 7 membered heteroaryl or heterocycloalkyl ring containing up to 4 heteroatoms selected from nitrogen, sulfur, and oxygen, said 5 to 7 membered heteroaryl or heterocycloalkyl ring is substituted at each carbon atom by R, and is substituted at each nitrogen atom available for substitution by R', wherein

R is independently chosen at each occurrence from hydrogen, halogen, amino, C<sub>1</sub>-C<sub>6</sub>alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, haloalkoxy, carboxamido, and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one

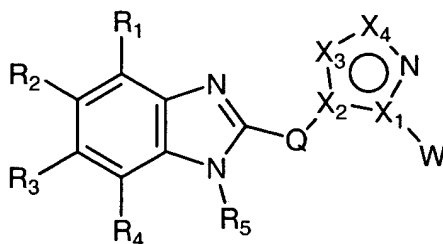


or more substituents independently selected from halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl), where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms;

R' is independently chosen at each occurrence from hydrogen, C<sub>1-6</sub>alkyl, C<sub>3-8</sub>cycloalkyl, C<sub>3-8</sub>cycloalkyl(C<sub>1-4</sub>alkyl), and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which 3- to 7-membered carbocyclic or heterocyclic groups are optionally substituted with one or more substituents independently selected from halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl), where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms; and

X<sub>1</sub>, X<sub>2</sub>, W, and Y are as defined in Claim 1.

Claim 3 (previously presented): A compound or salt according to Claim 2 of the formula:



wherein

X<sub>3</sub> and X<sub>4</sub> are independently selected from the group consisting of carbon, CR, N, O, S, NH, and N(C<sub>1-6</sub>)alkyl; provided that at least one of X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> is carbon or CR, wherein

R is independently chosen at each occurrence from hydrogen, halogen, amino, (C<sub>1-6</sub>)alkyl, (C<sub>1-6</sub>)alkoxy, (C<sub>3-8</sub>)cycloalkyl, (C<sub>3-8</sub>)cycloalkyl(C<sub>1-6</sub>)alkyl, (C<sub>2-</sub>

C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, carboxamido, and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one or more substituents independently selected from halogen, oxo, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl), where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms.

Claims 4-6 (cancelled)

Claim 7 (previously presented): A compound or salt according to Claim 3, wherein X<sub>2</sub> is carbon; and Q is oxygen.

Claim 8 (previously presented): A compound or salt according to Claim 3, wherein X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

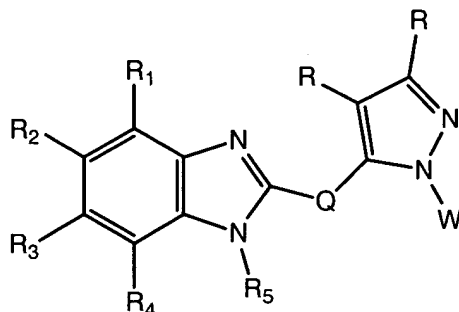
Claim 9 (previously presented): A compound or salt according to Claim 3, wherein X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 10 (previously presented): A compound or salt according to Claim 3, wherein X<sub>1</sub> is carbon; X<sub>2</sub> is N; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 11 (previously presented): A compound or salt according to Claim 3, wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 12 (previously presented): A compound or salt according to Claim 3, wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 13 (previously presented): A compound or salt according to Claim 3, of the formula



Claim 14 (original): A compound or salt according to Claim 13 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 15 (original): A compound or salt according to Claim 14, wherein:

R is independently selected at each occurrence from the group consisting of

- i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1</sub>-C<sub>4</sub>alkyl, and -O(C<sub>1</sub>-C<sub>4</sub>alkyl);

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents phenyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, or pyrimidinyl, each of which is optionally substituted with up to 4 independently selected R<sub>30</sub> groups.

Claim 16 (original) A compound or salt according to Claim 14, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Q is CH<sub>2</sub>; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

Claim 17 (original): A compound or salt according to Claim 16 wherein

R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and

W is phenyl, pyridyl, or thiazolyl, each which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

Claim 18 (original): A compound or salt according to Claim 17, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

Claim 19 (original): A compound or salt according to Claim 17, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

Claim 20 (original): A compound or salt according to Claim 17, wherein R<sub>5</sub> is ethyl or n-propyl.

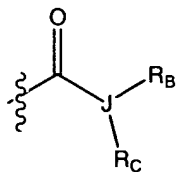
Claim 21 (original): A compound or salt according to Claim 17 wherein

R<sub>2</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 22 (original): A compound or salt according to Claim 17 wherein

R<sub>2</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

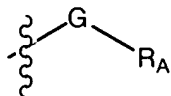
R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;
- c) one or more substituents R<sub>20</sub>.

Claim 23 (original): A compound or salt according to Claim 17 wherein

R<sub>2</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 24 (original): A compound or salt according to Claim 23 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 25 (original): A compound or salt according to Claim 14, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Q is CH<sub>2</sub>; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

Claim 26 (original): A compound or salt according to Claim 25 wherein

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and  
W is phenyl, pyridyl, or thiazolyl, each of which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

Claim 27 (original): A compound or salt according to Claim 26, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

Claim 28 (original): A compound or salt according to Claim 26, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

Claim 29 (original): A compound or salt according to Claim 26, wherein R<sub>5</sub> is ethyl or n-propyl.

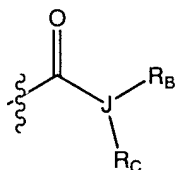
Claim 30 (original): A compound or salt according to Claim 26 wherein

R<sub>3</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 31 (original): A compound or salt according to Claim 26 wherein

R<sub>3</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl; or

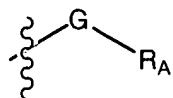
R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;
- c) one or more substituents R<sub>20</sub>.



Claim 32 (original): A compound or salt according to Claim 26 wherein

R<sub>3</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

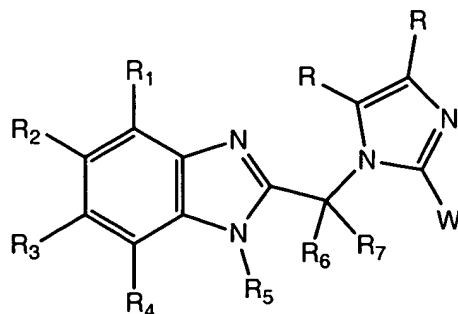
R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 33 (original): A compound or salt according to Claim 32 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 34 (original): A compound or salt according to Claim 26 wherein

R<sub>3</sub> is -HC=N-OH or -HC=N(C<sub>1</sub>-C<sub>6</sub> alkoxy).

Claim 35 (previously presented): A compound or salt according to Claim 3 of the formula



Claim 36 (original): A compound or salt according to Claim 35, wherein:

R is independently selected at each occurrence from the group consisting of

- i) hydrogen, halogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, and
- ii) phenyl and pyridyl each of which is optionally substituted with up to 3 substituents independently chosen from halogen, hydroxy, C<sub>1-4</sub>alkyl, and -O(C<sub>1-4</sub>alkyl);

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, heterocycloalkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl, benzyl, thiophenyl, thiazoyl, pyridyl, imidazolyl, pyrazolyl, or pyrimidinyl;

R<sub>6</sub> and R<sub>7</sub> independently represent hydrogen, fluorine, or C<sub>1</sub>-C<sub>6</sub> alkyl; and

W represents phenyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, or pyrimidinyl, each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

Claim 37 (original): A compound or salt according to Claim 35, wherein:

W represents a 6-membered aryl or heteroaryl groups, wherein the 6-membered aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from R<sub>30</sub>, -CO<sub>2</sub>H,

$-C(=O)OR_E$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-C(O)R_E$ ,  $-S(O)_mR_E$ , and  $-OR_E$ ;  
and m is 0, 1, or 2.

Claim 38 (original): A compound or salt according to Claim 35, wherein:

W represents a 5-membered heteroaryl group, wherein the 5-membered heteroaryl group is optionally substituted with up to 4 groups independently selected from  $R_{30}$ ,  $-CO_2H$ ,  $-C(=O)OR_E$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-C(O)R_E$ ,  $-S(O)_mR_E$ , and  $-OR_E$ , and m is 0, 1, or 2.

Claim 39 (original): A compound or salt according to Claim 35, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and  $(C_1-C_2)alkyl$ ;

$R_1$ ,  $R_3$ , and  $R_4$  are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino,  $(C_1-C_6)alkyl$ ,  $(C_1-C_6)alkoxy$ ,  $(C_3-C_8)cycloalkyl$ ,  $(C_3-C_8)cycloalkyl(C_1-C_6)alkyl$ , halo $(C_1-C_6)alkyl$ , halo $(C_1-C_6)alkoxy$ , mono or di $(C_1-C_6)alkylamino$ , amino $(C_1-C_6)alkyl$ , and mono- and di $(C_1-C_6)alkylamino(C_1-C_6)alkyl$ ;

$R_5$  represents  $(C_1-C_6)alkyl$ ;

$R_6$  and  $R_7$  are hydrogen; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4  $R_{30}$  groups.

Claim 40 (original): A compound or salt according to Claim 39 wherein

$R_1$ ,  $R_3$ , and  $R_4$  are independently selected from hydrogen, halogen, trifluoromethyl,  $C_1-C_2 alkyl$ , and cyano; and

W is phenyl, pyridyl, or thiazolyl, each which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

Claim 41 (original): A compound or salt according to Claim 40, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

Claim 42 (original): A compound or salt according to Claim 40, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

Claim 43 (original): A compound or salt according to Claim 40, wherein R<sub>5</sub> is ethyl or n-propyl.

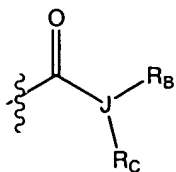
Claim 44 (original): A compound or salt according to Claim 40 wherein

R<sub>2</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 45 (original): A compound or salt according to Claim 40 wherein

R<sub>2</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

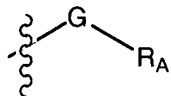
R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) (C<sub>1</sub>-C<sub>4</sub>)alkyl; or

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;
- c) one or more substituents R<sub>20</sub>.

Claim 46 (original): A compound or salt according to Claim 40 wherein

R<sub>2</sub> is a group of the formula:



where G is a bond or C<sub>1</sub>-C<sub>2</sub>alkyl; and

R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 47 (original): A compound or salt according to Claim 46 wherein R<sub>A</sub> is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 48 (original): A compound or salt according to Claim 40 wherein

R<sub>2</sub> is -HC=N-OH or -HC=N(C<sub>1</sub>-C<sub>6</sub>alkoxy).

Claim 49 (original): A compound or salt according to Claim 35, wherein:

R is independently selected at each occurrence from the group consisting of hydrogen, halogen, and (C<sub>1</sub>-C<sub>2</sub>)alkyl;

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, furanyl, thienyl, thiazoyl, pyridyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

Claim 50 (original): A compound or salt according to Claim 49 wherein

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are independently selected from hydrogen, halogen, trifluoromethyl, C<sub>1</sub>-C<sub>2</sub> alkyl, and cyano; and

W is phenyl, pyridyl, or thiazolyl, each which is optionally substituted by one or more substituents independently chosen from halogen, cyano, hydroxy, oxo, C<sub>1</sub>-C<sub>2</sub>haloalkyl, C<sub>1</sub>-C<sub>2</sub>alkyl, and C<sub>1</sub>-C<sub>2</sub> alkoxy.

Claim 51 (original): A compound or salt according to Claim 50, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

Claim 52 (original): A compound or salt according to Claim 50, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

Claim 53 (original): A compound or salt according to Claim 50, wherein R<sub>5</sub> is ethyl or n-propyl.

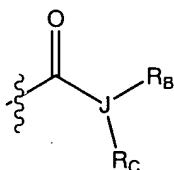
Claim 54 (original): A compound or salt according to Claim 50 wherein

R<sub>3</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claim 55 (original): A compound or salt according to Claim 50 wherein

R<sub>3</sub> is a group of the formula



where J is N, CH, or C-(C<sub>1</sub>-C<sub>6</sub>)alkyl and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, and (C<sub>3</sub>-C<sub>8</sub>cycloalkyl)(C<sub>1</sub>-C<sub>4</sub>)alkyl; or

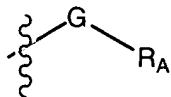
R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, and N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen or (C<sub>1</sub>-C<sub>6</sub>)alkyl;

c) one or more substituents  $R_{20}$ .

Claim 56 (original): A compound or salt according to Claim 50 wherein

$R_3$  is a group of the formula:



where G is a bond or  $C_1$ - $C_2$ alkyl; and

$R_A$  is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

Claim 57 (original): A compound or salt according to Claim 56 wherein  $R_A$  is chosen from phenyl, pyrrolyl, pyrazolyl, thiazolyl, isoxazolyl, triazolyl, tetrazolyl, oxadiazolyl, and oxazolyl each of which is optionally substituted with 1, 2, 3, or 4 of  $R_{20}$ .

Claim 58 (original): A compound or salt according to Claim 50 wherein

$R_3$  is  $-HC=N-OH$  or  $-HC=N(C_1-C_6\text{alkoxy})$ .

Claim 59 (previously presented): A compound or salt according to Claim 3 wherein:

$X_1$  is carbon;  $X_2$  is nitrogen;  $X_3$  is CR;  $X_4$  is nitrogen; and Q is  $C(R_6)(R_7)$ .

Claim 60 (previously presented): A compound or salt according to Claim 3 wherein

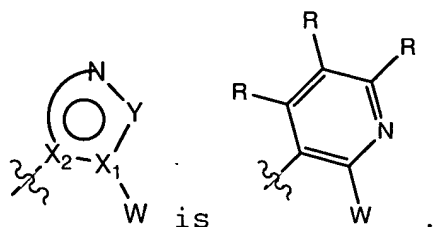


X<sub>1</sub> is carbon; X<sub>2</sub> is nitrogen; X<sub>3</sub> is nitrogen; X<sub>4</sub> is CR; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 61 (previously presented): A compound or salt according to Claim 3 wherein X<sub>1</sub> is carbon; X<sub>2</sub> is carbon; X<sub>3</sub> is S; and X<sub>4</sub> is CR.

Claim 62 (original): A compound or salt according to Claim 61 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 63 (previously presented): A compound or salt according to Claim 2, wherein and the group



Claim 64 (original): A compound or salt according to Claim 63 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

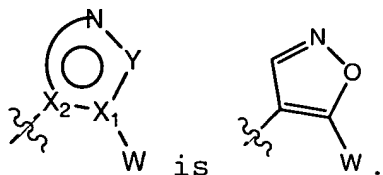
Claim 65 (previously presented): A compound or salt according to Claim 3 wherein X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is nitrogen; and X<sub>4</sub> is CR.

Claim 66. (previously presented) A compound or salt according to Claim 3 wherein X<sub>1</sub> is carbon; X<sub>2</sub> is carbon; X<sub>3</sub> is NH or N(C<sub>1</sub>-C<sub>6</sub>alkyl); and X<sub>4</sub> is CR.

Claim 67 (previously presented): A compound or salt according to Claim 3 wherein

X<sub>1</sub> is carbon; X<sub>2</sub> is nitrogen; X<sub>3</sub> is nitrogen; X<sub>4</sub> is nitrogen; and Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 68 (previously presented): A compound or salt according to Claim 2, wherein the group



Claim 69 (previously presented): A compound or salt according to Claim 3, wherein

X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is CR; and X<sub>4</sub> is nitrogen.

Claim 70 (original): A compound or salt according to Claim 69 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claim 71 (previously presented): A compound or salt according to Claim 3, wherein  
X<sub>1</sub> is nitrogen; X<sub>2</sub> is carbon; X<sub>3</sub> is nitrogen; and X<sub>4</sub> is nitrogen.

Claim 72 (original): A compound or salt according to Claim 71 wherein Q is C(R<sub>6</sub>)(R<sub>7</sub>).

Claims 73-164 (cancelled)

Claim 165. (original) A pharmaceutical composition comprising a compound or salt according to Claim 1 combined with at least one pharmaceutically acceptable carrier or excipient.

Claim 166 (original): A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, said method comprising contacting a cell expressing such a receptor with an amount of a compound or salt according to Claim 1 sufficient to detectably

alter the electrophysiology of the cell, wherein a detectable alteration of the electrophysiology of the cell indicates an alteration of the signal-transducing activity of GABA<sub>A</sub> receptors.

Claim 167 (original): A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, said method comprising contacting a cell expressing such receptors with an amount of a compound or salt according to Claim 1 to detectably alter the chloride conductance *in vitro* of cell expressing GABA<sub>A</sub> receptors.

Claim 168 (previously presented) The method of Claim 167 wherein the cell recombinantly expresses a heterologous GABA<sub>A</sub> receptor and the alteration of the electrophysiology of the cell is detected by intracellular recording or patch clamp recording.

Claim 169 (original): The method of Claim 167 wherein the cell is a neuronal cell that is contacted *in vivo* in an animal, the cell is contacted with the compound or salt dissolved in a body fluid, and the alteration in the electrophysiology of the cell is detected as a change in the animal's behavior.

Claim 170 (original): The method of Claim 169 wherein the animal is a human, the neuronal cell is a brain cell, and the body fluid is cerebrospinal fluid.

Claim 171 (original): A method for altering the signal-transducing activity of a GABA<sub>A</sub> receptor, the method comprising exposing a cell expressing the GABA<sub>A</sub> receptor to an amount of a compound or salt according to Claim 1 sufficient to inhibit R015-1788 binding *in vitro* to cells expressing a human GABA<sub>A</sub> receptor.

Claim 172 (original): A method for the treatment of anxiety, depression, a sleep disorder, schizophrenia, attention deficit-

hyperactivity disorder, or for the enhancement of memory, comprising administering an effective amount of a compound or salt of Claim 1 to a patient.

Claims 173-177 (cancelled)

Claim 178 (original): A package comprising a pharmaceutical composition of claim 165 in a container and further comprising at least one of:

instructions for using the composition to treat a patient suffering from an anxiety disorder, or

instructions for using the composition to treat a patient suffering from depression, or

instructions for using the composition to treat a patient suffering from a sleeping disorder,

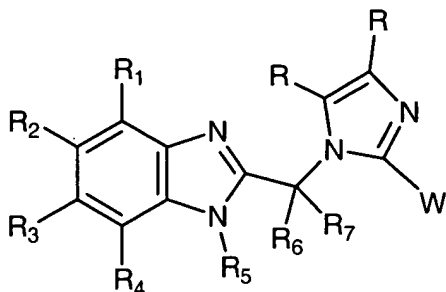
instructions for using the composition to treat a patient suffering from schizophrenia, or

instructions for using the composition to treat a patient suffering from attention deficit-hyperactivity disorder.

Claim 179 (original): A package comprising a pharmaceutical composition of claim 165 in a container and further comprising indicia comprising at least one of: instructions for using the composition to treat a patient suffering from Alzheimer's dementia or instructions for using the composition to enhance memory in a patient.

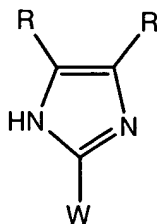
Claims 180-182 (cancelled)

Claim 183 (original): A process for preparing a compound of Formula A



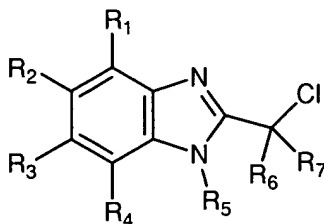
Formula A

comprising reacting a compound of Formula B



Formula B

with a compound of Formula C



Formula C

wherein:

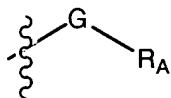
R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently selected from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, haloalkyl, and haloalkoxy,
- ii) alkyl, alkoxy, cycloalkyl, alkenyl, alkynyl, (cycloalkyl)alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), hydroxyalkyl, aminoalkyl, (R<sub>10</sub>)NHalkyl, (R<sub>10</sub>)(R<sub>11</sub>)Nalkyl, alkanoyl, alkoxycarbonyl, (heterocycloalkyl)alkyl, alkylsulfonyl, alkylthio, mono- or dialkylaminocarbonyl, heterocycloalkyl, aryl, and heteroaryl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>,

wherein R<sub>10</sub> and R<sub>11</sub> are independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkoxy,

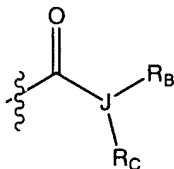
cycloalkyl, (cycloalkyl)alkyl, aryl, arylalkyl, alkanoyl, and mono and dialkylaminoalkyl; and

iii) a group of the formula:



where G is a bond, alkyl, -O-, -C(=O)-, or -CH<sub>2</sub>C(=O)-, and R<sub>A</sub> is a saturated, partially unsaturated, or aromatic carbocycle, consisting of 1 ring or 2 fused, pendant, or spiro rings, each ring containing 0, 1, or 2 heteroatoms independently chosen from N, S, and O, said saturated, partially unsaturated, or aromatic carbocycle is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>, and

iv) a group of the formula



where J is N, CH, or C-alkyl, and

R<sub>B</sub> and R<sub>C</sub> are independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, cycloalkyl, (cycloalkyl)alkyl, heterocycloalkyl, aryl, arylalkyl, alkanoyl, heteroaryl, and mono and dialkylaminoalkyl, each of which is optionally substituted by 1 or 2 substituents independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl;

R<sub>B</sub> and R<sub>C</sub> and the atom to which they are attached form a 4- to 10-membered monocyclic or bicyclic ring, which may contain:

- a) one or more double bonds,
- b) one or more of oxo, O, S, SO, SO<sub>2</sub>, or N-R<sub>D</sub> wherein R<sub>D</sub> is hydrogen, Ar<sub>1</sub>, alkyl, cycloalkyl, heterocycloalkyl, or Ar<sub>1</sub>alkyl; wherein Ar<sub>1</sub> is aryl or heteroaryl, each of which is optionally substituted by 1 or 2 substituents

independently chosen from halogen, hydroxy, cyano, amino, nitro, alkoxy, and alkyl, and/or

c) one or more substituents  $R_{20}$ ;

v)  $-OC(=O)R_E$ ,  $-C(=O)OR_E$ ,  $-C(=O)NH_2$ ,  $-C(=O)NHR_E$ ,  $-C(=O)NR_ER_F$ ,  $-S(O)_nR_E$ ,  $-S(O)_nNH_2$ ,  $-S(O)_nNHR_E$ ,  $-S(O)_nNR_ER_F$ ,  $-NHC(=O)R_E$ ,  $-C(=NR_E)R_F$ ,  $-HC=N-OH$ ,  $-HC=N(alkoxy)$ ,  $-HC=N(alkyl)$ ,  $-NR_EC(=O)R_F$ ,  $-NHS(O)_mR_E$ , and  $-NR_ES(O)_mR_F$ , where  $m$  is 0, 1 or 2, and

$R_E$  and  $R_F$  are independently selected at each occurrence from alkyl, cycloalkyl, heterocycloalkyl, alkoxy, mono- or dialkylamino, aryl, or heteroaryl each of which is optionally substituted by 1, 2, or 3 of  $R_{30}$ ;

$R_{20}$  is independently selected at each occurrence from the group consisting of: halogen; hydroxy; nitro; cyano; amino; alkyl; alkoxy optionally substituted with amino or mono- or dialkylamino; cycloalkyl; cycloalkylalkyl; cycloalkylalkoxy; alkenyl; alkynyl; haloalkyl; oxo; haloalkoxy; mono- and dialkylamino; aminoalkyl; and mono- and dialkylaminoalkyl;

$R_{30}$  is independently selected at each occurrence from halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, oxo, mono- and dialkylamino, aminoalkyl, and mono- and dialkylaminoalkyl;

$R_5$  represents hydrogen or haloalkyl; or

$R_5$  represents alkyl, cycloalkyl, or (cycloalkyl)alkyl, each of which may contain one or more double or triple bonds, and each of which is optionally substituted with 1, 2, or 3 of  $R_{30}$ , or

$R_5$  represents aryl, arylalkyl, heteroaryl, or heteroarylalkyl each of which is optionally substituted with 1, 2, or 3

substituents selected from the group consisting of haloalkyl, amino,  $-\text{NH}(\text{R}_{10})$ ,  $-\text{N}(\text{R}_{10})(\text{R}_{11})$ , carboxamido,  $(\text{R}_{10})\text{NHcarbonyl}$ ,  $(\text{R}_{10})(\text{R}_{11})\text{Ncarbonyl}$ , halogen, hydroxy, nitro, cyano, amino, alkyl, alkoxy optionally substituted with amino or mono- or dialkylamino, cycloalkyl, cycloalkylalkyl, cycloalkylalkoxy, heterocycloalkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aminoalkyl, and mono- and dialkylaminoalkyl;

$\text{R}_6$  and  $\text{R}_7$  independently represent hydrogen, fluorine, or alkyl;

$\text{R}$  is independently chosen at each occurrence from hydrogen, halogen, amino,  $\text{C}_1\text{-C}_6$ alkyl,  $(\text{C}_2\text{-C}_6)$ alkenyl,  $(\text{C}_2\text{-C}_6)$ alkynyl,  $\text{C}_1\text{-C}_6$ alkoxy,  $(\text{C}_3\text{-C}_8)$ cycloalkyl,  $(\text{C}_3\text{-C}_8\text{cycloalkyl})(\text{C}_1\text{-C}_4)$ alkyl, halo $(\text{C}_1\text{-C}_6)$ alkyl, haloalkoxy, carboxamido, and 3- to 7-membered carbocyclic or heterocyclic groups which are saturated, unsaturated, or aromatic, which may be further substituted with one or more substituents independently selected from halogen, oxo, hydroxy,  $\text{C}_{1-4}$ alkyl, and  $-\text{O}(\text{C}_{1-4}\text{alkyl})$ , where the heterocyclic groups contain carbon atoms and one, two, or three heteroatoms selected from oxygen, nitrogen, and sulfur atoms; and

$\text{W}$  represents aryl or heteroaryl, wherein the aryl or heteroaryl group is optionally substituted with up to 4 groups independently selected from  $\text{R}_{30}$ ,  $-\text{CO}_2\text{H}$ ,  $-\text{C}(=\text{O})\text{OR}_E$ ,  $-\text{C}(=\text{O})\text{NHR}_E$ ,  $-\text{C}(=\text{O})\text{NR}_E\text{R}_F$ ,  $-\text{C}(\text{O})\text{R}_E$ , and  $-\text{S}(\text{O})_m\text{R}_E$ ,  $-\text{OR}_E$ , where  $\text{R}_{30}$  and  $\text{R}_E$  are as defined above and  $m$  is 0, 1, or 2.

Claim 184 (original): A process according to Claim 183, wherein:

$\text{Z}_1$  is  $\text{CR}_1$ ,  $\text{Z}_2$  is  $\text{CR}_2$ ,  $\text{Z}_3$  is  $\text{CR}_3$ , and  $\text{Z}_4$  is  $\text{CR}_4$ ,

$\text{R}$  is independently selected at each occurrence from the group consisting of hydrogen, halogen, and  $(\text{C}_1\text{-C}_2)$ alkyl;

$\text{R}_1$ ,  $\text{R}_3$ , and  $\text{R}_4$  are independently selected from hydrogen, halogen, hydroxy, nitro, cyano, amino,  $(\text{C}_1\text{-C}_6)$ alkyl,  $(\text{C}_1\text{-C}_6)$ alkoxy,



(C<sub>3</sub>-C<sub>8</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy, mono or di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, amino(C<sub>1</sub>-C<sub>6</sub>)alkyl, and mono- and di(C<sub>1</sub>-C<sub>6</sub>)alkylamino(C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>5</sub> represents (C<sub>1</sub>-C<sub>6</sub>)alkyl;

R<sub>6</sub> and R<sub>7</sub> are hydrogen; and

W represents phenyl, furanyl, thienyl, thiazolyl, imidazolyl, oxazolyl, triazolyl, tetrazolyl, pyrazolyl, isoxazolyl, pyrimidinyl, benzimidazolyl, quinolinyl, isoquinolinyl each of which is optionally substituted with up to 4 R<sub>30</sub> groups.

Claim 185 (original): A process according to Claim 184, wherein W is 2-thiazolyl, 2-pyrimidinyl, 3-fluorophenyl, or 6-fluoro-2-pyridinyl.

Claim 186 (original): A process according to Claim 184, wherein R, R<sub>1</sub>, and R<sub>4</sub> are hydrogen.

Claim 187 (original): A process according to Claim 184, wherein R<sub>5</sub> is ethyl or n-propyl.

Claim 188 (original): A process according to Claim 184 wherein

R<sub>2</sub> is chosen from

- i) hydrogen, halogen, hydroxy, nitro, cyano, amino, halo(C<sub>1</sub>-C<sub>6</sub>)alkyl, and halo(C<sub>1</sub>-C<sub>6</sub>)alkoxy,
- ii) C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, (C<sub>3</sub>-C<sub>8</sub>cycloalkyl) C<sub>1</sub>-C<sub>4</sub>alkyl, -NH(R<sub>10</sub>), -N(R<sub>10</sub>)(R<sub>11</sub>), (R<sub>10</sub>)NH(C<sub>1</sub>-C<sub>6</sub>)alkyl, (R<sub>10</sub>)(R<sub>11</sub>)N(C<sub>1</sub>-C<sub>6</sub>)alkyl, (heterocycloalkyl)C<sub>1</sub>-C<sub>4</sub>alkyl, and heterocycloalkyl, each of which is optionally substituted with 1, 2, 3, or 4 of R<sub>20</sub>.

Claims 189-210.

Claim 211 (previously presented): A compound according to claim 1, which is

1-Propyl-2-{{2-(2-fluoropyrid-6-yl)-1H-imidazol-1-yl}methyl}-5-cyano-1H-benzimidazole;

1-Ethyl-2-{{2-(3-fluorophenyl)-pyrazol-3-yl}methyl}-5-cyano-1H-benzimidazole;

1-Ethyl-2-{{2-(3-fluorophenyl)-pyrazol-3-yl}methyl}-5-acetyl-1H-benzimidazole;

3-ethyl-2-{{2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl}methyl}-6-propyl-3H-imidazo[4,5-c]pyridine;

1-[3-Ethyl-2-(2-thiazol-2-yl-imidazol-1-yl)methyl]-3H-benzoimidazol-5-yl]-ethanone;

4-(1-ethyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl}methyl}-1H-benzimidazol-5-yl)-2-methylbutan-2-ol;

2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

2-{{2-(2-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

2-{{2-(2,5-difluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

6-chloro-2-{{2-(2-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 212 (previously presented): A compound according to claim 1, which is

6-chloro-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

6-chloro-2-{{2-(4-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

6-chloro-2-{{2-(2,5-difluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-3-propyl-3H-imidazo[4,5-b]pyridine;

6-chloro-2-{{2-(2,5-difluorophenyl)-1H-imidazol-1-yl}methyl}-1-ethyl-1H-benzimidazole;

6-chloro-1-ethyl-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-1H-benzimidazole;

6-chloro-2-{{2-(3-chlorophenyl)-1H-imidazol-1-yl}methyl}-1-ethyl-1H-benzimidazole;

2-{{2-(3-chlorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

1-ethyl-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-1H-benzimidazole-5-carbonitrile;

1-ethyl-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-5-(trifluoromethyl)-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 213 (previously presented): A compound according to claim 1, which is

2-{{2-(3-chlorophenyl)-1H-imidazol-1-yl}methyl}-1-ethyl-5-(morpholin-4-ylmethyl)-1H-benzimidazole;

1-ethyl-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-5-(morpholin-4-ylmethyl)-1H-benzimidazole;

1-ethyl-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-5-[(4-methylpiperidin-1-yl)methyl]-1H-benzimidazole;

2-{{2-(3-chlorophenyl)-1H-imidazol-1-yl}methyl}-5-fluoro-1-propyl-1H-benzimidazole;

5-fluoro-2-{{2-(3-fluorophenyl)-1H-imidazol-1-yl}methyl}-1-propyl-1H-benzimidazole;

5-chloro-2-{{2-(2,5-difluorophenyl)-1H-imidazol-1-yl}methyl}-1-ethyl-1H-benzimidazole;

2-{{2-(2,5-difluorophenyl)-1H-imidazol-1-yl}methyl}-1-ethyl-5-fluoro-1H-benzimidazole;

5-chloro-2-{{2-(3-chlorophenyl)-1H-imidazol-1-yl}methyl}-1-

ethyl-1H-benzimidazole;

2-{[2-(3-chlorophenyl)-1H-imidazol-1-yl]methyl}-1-ethyl-1H-benzimidazole-5-carbonitrile;

2-{[2-(3-chlorophenyl)-1H-imidazol-1-yl]methyl}-1-ethyl-5-fluoro-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 214 (previously presented): A compound according to claim 1, which is

1-ethyl-5-fluoro-2-{[2-(2-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole;

5-bromo-1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole;

1-Propyl-2-{[2-(2-fluoropyrid-6-yl)-1H-imidazol-1-yl]methyl}-5-cyano-1H-benzimidazole;

2-{[2-(2,5-difluorophenyl)-1H-imidazol-1-yl]methyl}-1-ethyl-1H-benzimidazole-5-carbonitrile;

3-{1-[(1-ethyl-5-fluoro-1H-benzimidazol-2-yl)methyl]-1H-imidazol-2-yl}benzonitrile;

2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1-propyl-1H-benzimidazole-5-carbonitrile;

2-{[2-(3-chlorophenyl)-1H-imidazol-1-yl]methyl}-1-propyl-1H-benzimidazole-5-carbonitrile;

2-{[2-(2,5-difluorophenyl)-1H-imidazol-1-yl]methyl}-1-propyl-1H-benzimidazole-5-carbonitrile;

1-ethyl-5-(3-fluorophenyl)-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole;

2-{[2-(3-cyanophenyl)-1H-imidazol-1-yl]methyl}-1-ethyl-1H-benzimidazole-5-carbonitrile;

5-chloro-1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 215 (previously presented): A compound according to claim 1, which is

3-{1-[(5-bromo-1-ethyl-1H-benzimidazol-2-yl)methyl]-1H-imidazol-2-yl}benzonitrile;

1-(1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazol-5-yl)ethanone;

1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole-5,6-dicarbonitrile;

3-{1-[(5-acetyl-1-ethyl-1H-benzimidazol-2-yl)methyl]-1H-imidazol-2-yl}benzonitrile;

1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-5-(5-methyl-1,2,4-oxadiazol-3-yl)-1H-benzimidazole;

1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-5-[(trifluoromethyl)sulfonyl]-1H-benzimidazole;

1-(2-{[2-(3-chlorophenyl)-1H-imidazol-1-yl]methyl}-1-ethyl-1H-benzimidazol-5-yl)ethanone;

1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole-6-carbonitrile;

1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-5-(5-methyl-1,3-oxazol-2-yl)-1H-benzimidazole;

1-ethyl-2-{[2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl]methyl}-1H-benzimidazole-5-carbonitrile; or

a pharmaceutically acceptable salt thereof.

Claim 216 (previously presented): A compound according to claim 1, which is

1-(1-ethyl-2-{[2-(3-fluorophenyl)-1H-imidazol-1-yl]methyl}-1H-benzimidazol-5-yl)propan-1-one;

1-(1-ethyl-2-{[2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl]methyl}-1H-benzimidazol-5-yl)ethanone;

1-ethyl-2-{[2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl]methyl}-5-(trifluoromethyl)-1H-benzimidazole;

1-(2-fluoroethyl)-2-{[2-(3-fluorophenyl)-1H-imidazol-1-

yl)methyl}-1H-benzimidazole;

6-chloro-1-ethyl-2-{{2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-ethyl-2-{{2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-6-(trifluoromethyl)-1H-benzimidazole;

1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-6-(trifluoromethyl)-1H-benzimidazole;

1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-6-methyl-1H-benzimidazole;

6-chloro-1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-(1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazol-5-yl)ethanone; or

a pharmaceutically acceptable salt thereof.

Claim 217 (previously presented): A compound according to claim 1, which is

1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole-5-carbonitrile;

5-chloro-1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-ethyl-5-fluoro-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-ethyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole-5-carbonitrile;

1-ethyl-2-{{2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-5-thien-3-yl-1H-benzimidazole;

1-(1-propyl-2-{{2-(6-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazol-5-yl)ethanone;

1-ethyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-6-(trifluoromethyl)-1H-benzimidazole;

1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-6-(trifluoromethyl)-1H-benzimidazole;

1-ethyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-5-(trifluoromethyl)-1H-benzimidazole;

1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-5-(trifluoromethyl)-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 218 (previously presented): A compound according to claim 1, which is

5,6-dichloro-1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;

1-ethyl-6-methyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-ethyl-5-fluoro-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole;

1-ethyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-1H-benzimidazole-6-carbonitrile;

1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole-5-carbonitrile;

1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole-6-carbonitrile;

3-ethyl-6-methyl-2-{{2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl}-3H-imidazo[4,5-c]pyridine;

1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;

6-chloro-1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;

1-ethyl-6-methyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole; or

a pharmaceutically acceptable salt thereof.

Claim 219 (previously presented): A compound according to claim 1, which is

1-ethyl-5-fluoro-2-[(2-pyrimidin-2-yl-1H-imidazol-1-

yl)methyl]-1H-benzimidazole;  
     5-chloro-1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;  
     1-ethyl-5-fluoro-6-methyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;  
     1-ethyl-6-fluoro-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazole;  
     1-ethyl-6-fluoro-2-{[2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl]-1H-benzimidazole;  
     1-(2-{[2-(2,5-difluorophenyl)-1H-imidazol-1-yl)methyl]-1-ethyl-1H-benzimidazol-5-yl}ethanone;  
     2-{[2-(3-fluoropyridin-2-yl)-1H-imidazol-1-yl)methyl]-1-propyl-1H-benzimidazole-5-carbonitrile;  
     1-(1-ethyl-2-{[2-(1,3-thiazol-2-yl)-1H-imidazol-1-yl)methyl]-1H-benzimidazol-5-yl}ethanone;  
     1-ethyl-2-{[2-(5-fluoro-2-methylphenyl)-1H-imidazol-1-yl)methyl]-1H-benzimidazole-5-carbonitrile;  
     1-Propyl-2-(2-pyrimidin-2-yl-imidazol-1-ylmethyl)-1H-benzoimidazole-5-carbonitrile;  
     1-{1-ethyl-2-[(2-pyrimidin-2-yl-1H-imidazol-1-yl)methyl]-1H-benzimidazol-5-yl}ethanone; or  
     a pharmaceutically acceptable salt thereof.

Claim 220 (previously presented): A compound according to claim 1, which is 1-ethyl-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl)methyl]-5-(morpholin-4-ylmethyl)-1H-benzimidazole;

    2-{[1-(3-chlorophenyl)-1H-pyrazol-5-yl)methyl]-1-ethyl-5-(morpholin-4-ylmethyl)-1H-benzimidazole;

    1-ethyl-5-fluoro-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl)methyl]-1H-benzimidazole;

    5-chloro-1-ethyl-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl)methyl]-1H-benzimidazole;

    2-{[1-(2,5-difluorophenyl)-1H-pyrazol-5-yl)methyl]-1-ethyl-



1H-benzimidazole-5-carbonitrile;  
2-{[1-(3-chlorophenyl)-1H-pyrazol-5-yl]methyl}-1-ethyl-1H-benzimidazole-5-carbonitrile;  
1-(2-{[1-(3-chlorophenyl)-1H-pyrazol-5-yl]methyl}-1-ethyl-1H-benzimidazol-5-yl)ethanone;  
1-ethyl-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl]methyl}-1H-benzimidazole-6-carbonitrile;  
1-(1-ethyl-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl]methyl}-1H-benzimidazol-5-yl)propan-1-one;  
2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl]methyl}-1-(3-fluoropropyl)-1H-benzimidazole;  
1-(2-fluoroethyl)-2-{[1-(3-fluorophenyl)-1H-pyrazol-5-yl]methyl}-1H-benzimidazole; or  
a pharmaceutically acceptable salt thereof.